

DRUG ADDICTION AND HEPATITIS B AND C IN PAKISTAN

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ABSTRACT

Pakistan carries one of the world's highest burdens of drug abuse and mortality due to hepatitis B & C in correlation with drug addiction. However, currently on national level there is no approximation of risk factors for hepatitis B & C associated with drug addiction. We reviewed the medical and public health literature over a 6 months period (March to September 2012) to estimate the prevalence of hepatitis B & C in Pakistan in association with drug addiction. The published literature on modes of transmission implicated unsterilized medical injections, barbering at roads, drug abuse, sexual behaviors, injection abuser groups and unsafe blood and blood products transfusion as major causes for having hepatitis in Pakistan. Injection drug users are at an augmented risk of infection and risk is increasing exponentially.

Key Words: Drug addiction, Hepatitis B, Hepatitis C.

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INTRODUCTION

Addiction is a continual, chronic, reoccurring psychological and physical disease that is characterized by habitual and obsessive drug seeking behavior and use, regardless of detrimental results. It is considered a brain disease as drugs alter the brain; they modify its structure and function. These brain changes can be enduring and can lead to many destructive and detrimental behaviors.¹

The history of addiction goes back to some 7000 BC for a description of the cultivation and preparation of opium which is included in the clay tablets of the Sumerians. Source of Opium was extract from poppy plant, cocaine from the leaves of coca bush, and cannabis from the hemp plant. At the start the use of these was only for the rationale of relieving the physical and mental capabilities, and for medicinal and surgical reason. But the human nature of modernization and improvement must have led to the use of these substances for mood-altering effects and propose flee from the genuine and complex world of existence to a more enjoyable and satisfying world of fantasy. These things are possibly a few of the oldest natural substances used by human race.²

Afghanistan is the world's chief producer of illicit opium, and Pakistan lies in immediate neigh-

borhood of it thus placing the country in an exposed position in terms of drug trafficking and drug abuse.² The problems related with heroin use in Pakistan are aggravated due to the country's widespread porous border with one of largest opium producers.³ Social, economic and political developments revolutionized the way of illicit drug production, distribution and abuse. Such changes highlight the stipulation of analysis and research on drug trends in the country.⁴ Being in a region that cultivates nearly 90% of the world's opiates, Pakistan is facing multi-dimensional coercion rising from its being the most desired drug route, cultivation of poppy, smuggling of precursors and psychotropic substances and an alarming increase in its population of drug addicts.²

Pakistan is the second largest country in the south Asia region with population of about 170 million.² According to the human development index of the United Nations it was positioned 134th out of 174 countries. It is a developing country with low health and educational standards.⁵ Pakistan has extensively been exposed to the results of unlawful opium fostering, manufacture, trafficking and abuse. The magnitude, degree and severity of the dilemma however, varies over time.²

According to the year 2000 National Assessment Study of Drug Use in Pakistan supported by the United Nations Office of Drug Control and Crime Prevention (UNODC), there are 5,00,000 heroin addicts in Pakistan, of whom 75,000 (15%) are regular and 150,000 (30%) are occasional injection drug users (IDUs).⁶

The 2006 National Assessment Report on Problem Drug Use in Pakistan estimates that there

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are 628,000 opiate users, of these around 482,000 (77%) is heroin users.⁷ The prevalence rates for opiate use range from 0.4% in the provinces of Punjab and Sindh to 0.7% in the Khyber Pukhtunkhwa and 1.1% in Baluchistan.⁸ Drug abuse study surveys conducted in 1980, 1982, 1988, 1993, 2000 and 2006 indicate the increase in number of drug abuse at the rate of 7% annually.²

The definition for an IDU was a person who had injected drugs, for non-therapeutic purposes in the past six months.⁹ IDUs in Pakistan are posing a grim threat to the country's healthcare system.¹⁰

There is also an amplified shift towards injecting drug use among drug addicts in the country.¹¹ Fluctuations in heroin accessibility, purity and cost have led many heroin addicts to switch to injecting drug use.¹² The drugs taken via injection have more intense and satisfying effects and young drug users' switch over to injectables because of these effects.¹³ Also there has been an increased swing among addicts from inhalatory to injectable drugs due to decrease in quality and availability of heroin.¹⁴

The 2006 National Assessment Report on Problem Drug Use in Pakistan declared that 29% of reported opiate users have history of administering drug through injection in their life span, and the majority is still injecting. Since 2000 the anticipated number of injecting drug users in Pakistan has almost doubled. According to the Anti-Narcotics Force (ANF), the prevalence of IDUs is estimated to be around 0.14% of the adult population with a corresponding estimate of around 125,000 injecting drug users in the country. A high incidence of injection drug use was observed, majority had been injecting either daily or up to four times a day during the past six months. Significant sharing of injecting needles/syringes and other belongings was reported among IDUs. Heroin, other opiates and benzodiazepines or a mixture of these substances are among the most common drugs being used.¹⁵ IDUs are using a combination of products depending upon its availability. Most common narcotics used in addition to heroin are pharmaceutical combination of diazepam, lorazepam and pheniramine.²

Socio-cultural issues together with unemployment, poor financial conditions and illiteracy; weak social and parental control, immature delinquencies, craze of savoring new stuff and depraved tendencies are some of the prime provocations for drug abuse in a developing country like Pakistan and the most susceptible part is youth.¹⁶

Approximately 50% of IDUs in 2007 were observed in a treatment course; most of them wanted are unable to get rid of their addiction because of

non-availability or high charges by rehabilitation centers. The main reason for relapse was the economic crisis faced by most patients of drug dependence as the rehabilitation centers are totally not concerned in the improvement of occupational skills among addicts.¹⁷

History of prison relates strongly with tendency to abuse drug. A study of persons with age range 13-79 years showed that there were sequentially 38.8% drug injection addicts consisting of 26% drug-injection addicts without prison records and 12.8% drug-injection addicts with prison records.¹⁸

The World Health Organization (WHO) estimates over 350 million people with chronic hepatitis B virus (HBV) infection and 170 million patients of chronic hepatitis C virus (HCV) infection worldwide. HBV is the chief causes of severe liver disease, including hepatocellular carcinoma and cirrhosis-related end-stage liver disease.¹⁹

The HBV is a DNA virus belonging to a family of viruses known as Hepadnaviridae. The virus is primarily found in the liver but is also present in the blood and certain body fluids. HBV consists of a core particle (central portion) and a surrounding envelope (outer coat). The core is made up of DNA and the core antigen (HBcAg). The envelope contains the surface antigen (HBsAg). These antigens are present in the blood and are markers that are used in the diagnosis and evaluation of patients with suspected viral hepatitis.²⁰

HCV was discovered in 1989 as the foremost contributing agent of non-A, non-B hepatitis.²¹ In Pakistan, about 10 million people are reported with HCV infection.²² HCV is an enveloped positive single stranded RNA virus which is the major cause of chronic hepatitis worldwide.²³ HCV has six genetic groups, so-called genotypes and a number of subtypes. The six known genotypes differ by more than 30% of the nucleotide sequence and have unequal geographic distributions.¹⁶ More than 200 million people are infected with HCV; following the primary infection, 60-88% of the cases become chronic. Four different reports showed a high 57% ± 17.7% prevalence of HCV among the IDUs.²⁴

In developing countries, owed to non-implementation of inter-national principles concerning blood transfusion, reuse of needles for ear and nose piercing, reuse of syringes, injecting drug users, tattooing, shaving from barbers, unsterilized dental and surgical instruments are the main source of transmission of HCV.¹⁶

Numerous causes identified for this menace of having hepatitis consist of the deficiency of funds and resources to monitor contributions at blood

banks, the use of unsterilized medical tools, and the high frequency of needless, medical injections where needles and syringes are often reused without suitable sterilization. Participants are also involved in the practice of intentionally drawing blood into the syringe and re-injecting the blood-drug mixture (referred to locally as "jerkings"; this is also known as "booting" or "registering" in other countries), medical and other percutaneous devices, such as surgery, dental work. Barbering in temporary stalls or on the road is very frequent in Pakistan and is repeatedly carried out under unhygienic and insanitary conditions, and sexual behaviors,²⁵ rough accommodations, female gender, society, survival sex work, recurrent injecting cocaine utilization, imprisonment, having a spouse/colleague who injects, injecting groups, have need of help injecting, and borrowing injecting apparatus²⁶ numerous mismanagements and misperceptions, dearth and abusing of drugs,²⁷ Less community awareness, be short of public and supplementary life skills and poor financial condition, these all aspects are accountable for HCV seropositivity and unexpected increase in number of patients with hepatitis in Pakistan.²⁸

The reuse of syringes and needles was a major cause contributing increased HCV incidence.^{29,30} It was reported that there are several small groups involved in recycling and repacking of used unsterilized syringes, which were available in various drug stores.⁸ It was anticipated that out of 5 million drug users in Pakistan, 15% were regular IDUs.³¹

Pakistan has world's highest burdens of chronic hepatitis and deaths due to liver failure and hepatocellular carcinomas. However, national level estimates of the prevalence of and risk factors for hepatitis B and hepatitis C are not available at present. The published literature on the modes of transmission of hepatitis B and hepatitis C in Pakistan shows link of contaminated needle use in medical care and drug abuse and unsafe blood and blood product transfusion. Hepatitis B is projected to result in 563,000 deaths and hepatitis C in 366,000 deaths per annum. Given its outsized population (165 million) and midway to high rates of infection, imperative efforts need to be made to improve study this population and to pertain worldwide effective programs like needle exchange and condom distribution along with appropriate counseling and therapy for their drug addiction. Unless serious infections are controlled in IDUs, they will continue to be the source of HBV, HCV, and now HIV to the general population in Pakistan.³¹ While universal immunization against HBV has still not been gained, noteworthy advances have been made. HBV vaccine has been incorporated in the EPI (Expanded Program

for Immunization) since 2002. All healthcare providers in the public sector are entitled for free HBV vaccination. Full exposure with HBV vaccination in the general population would be perfect, but at least healthcare workers and other high-risk professionals should be immunized universally.³²

DISCUSSION

Studies have shown that the prevalence rates of blood-borne viral infections are higher among individuals with extended drug use. Among drug-using populations, sharing of infected injection tools and abnormal sexual behavior are frequent, so assisting viral spread by either parenteral or sexual route.³³ Drug users, particularly those injecting intravenously, are at an augmented hazard of infection with blood-borne viruses, together with HBV,³⁴ HCV and human immunodeficiency virus (HIV).³⁵ Viral spread is chiefly parenteral through sharing of contaminated injection equipment.³⁶ The incidence of HBV infection did not appreciably fluctuate between the IDUs and the non-IDUs, the incidence of HCV infection was appreciably elevated among the IDUs while the incidence of both HBV and HCV infections was related with sharing of needles and use of intravenous drug for long period of time.³² If HCV spread to be reduced, then rigorous counseling and health education would be of supreme significance; a suitable means of preventing HCV transmission may be needed.³⁷

A national survey in 2005 showed HCV prevalence of 88% and 91% in IDUs of Karachi (Sindh) and Lahore (Punjab), respectively.³⁸ A study conducted in 2003 showed HCV prevalence of 93% and 75% among IDUs of Lahore (Punjab) and Quetta (Baluchistan), respectively.¹⁶ While Achakzai et al in a smaller study in 2004 showed HBV, HCV, and HIV prevalence of 6%, 60%, and 24% respectively in the IDUs of Quetta.³⁹

Further studies have also recognized factors that have been related with injecting synthetic drugs. In Quetta and Lahore in 2003, factors such as using drugs in groups or sharing snorting/chasing tools were related with recent inception of injections.⁴⁰ Two different case control studies in Lahore and Larkana in 2003 have assessed correlates of injection drugs use and HIV transmission. They have identified risk factors such as presence of an IDU friend, reuse of syringe, cost of current drug and poly drug use.^{13,41}

Statistics of a local NGO working for addiction free population in Pakistan reports a total of 2 million chronic heroin addicts in about 4.1 million of drug addict population. Since the early 1980s, political and economic changes inside the state have facilitated a striking increase of poverty and social problems associated to the unlawful and illegitimate manufacture, sale and promotion of opiates.⁴²

CONCLUSION

Addiction is a psychological and physical dependence on substance which leads to detrimental effects to the person as well as to the society. Different modes of administering the substance leads to various problems for the drug dependent specially the intravenous route causes a significant and drastic rise in the number of patients with hepatitis as it is a viral disease and is spread by the contaminated needles and accessories shared by infected person with normal one. Statistics have showed a marked rise of substance abuse because of close territorial contacts with Afghanistan which is the largest producer of opium in the world. Different factors including socioeconomic status, associated society, family history and others also play a spectacular role in promoting substance abuse; thus mounting number of patients with HBV and HCV in Pakistan is observed specially in the last decade.

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CONFLICT OF INTEREST
 Authors declare no conflict of interest.
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 None declared.